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February 1, 2018

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, SC 29201

Re: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC Integrated Resource Plans
Docket Nos. 2017-8-E and 2017-10-E

Dear Ms. Boyd:

Enclosed for filing in the above-referenced docket is the Response of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC to Comments of Coastal Conservation League and Southern Alliance for Clean Energy.

Please contact me if you have any questions.

Sincerely,

Rebecca J. Dulin

Enclosures

cc: Parties of Record

BEFORE THE

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NO. 2017-8-E
DOCKET NO. 2017-10-E

IN RE:	)	
	)	
Duke Energy Carolinas, LLC and	)	**Response of**
Duke Energy Progress, LLC	)	**Duke Energy Carolinas, LLC and**
Integrated Resource Plans	)	**Duke Energy Progress, LLC to**
	)	**Comments of Coastal Conservation**
	)	**League and Southern Alliance for**
	)	**Clean Energy**
	)	

On December 1, 2017, South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE") (jointly referred to as "Intervenors") filed comments in the above-referenced docket regarding Duke Energy Carolinas, LLC's ("DEC") and Duke Energy Progress, LLC's ("DEP," together with DEC, the "Companies") 2017 Integrated Resource Plans ("IRPs"). DEC and DEP respond as follows:

COMMENTS

A. Appropriateness of Natural Gas Capacity Additions and Planned Generation Mix

The Intervenors' comments improperly characterize the DEC and DEP 2017 IRPs as "gas dependent portfolio[s]." Comments at 2. While the Intervenors accurately state that natural gas makes up 45% of future capacity additions in DEC and 72% of future capacity additions in DEP, these statistics do not provide a full picture of the Companies' overall planned generation mix over the planning horizon. Taking into account these future capacity additions, in DEC, total natural gas-fired capacity will increase from 23% across the system to 29%, and in DEP, total

natural gas-fired capacity will increase from 34% to 47%. Not only does natural gas represent less than half of the installed capacity on the DEC and DEP systems, natural gas energy production at the end of the planning horizon only represents about one-third of the total energy produced by the combined DEC and DEP systems. Contrary to the assertions of the Intervenors, this is far from a "gas dependent portfolio."

Moreover, these natural gas resource additions are occurring as coal generation assets retire, reducing the Companies' overall carbon footprint by replacing the coal assets with a combination of more efficient natural gas generation, energy efficiency (EE) and renewable generation. Significantly, 36% of capacity growth in DEC and 28% of capacity growth in DEP is made up of renewables, demand side management (DSM) and EE programs. Additional pumped-storage hydro and nuclear uprates also contribute to future capacity additions. Thus, this is hardly a one-sided expansion strategy as purported by the Intervenors. The Companies' expansion strategy will continue to provide a diverse resource mix to South Carolina which serves to reduce risk, not enhance risk.

The Companies further disagree with the Intervenors' claims that "customers will see rate increases if gas prices spike and if there is a general upward trend in gas prices." Comments at 2. First, the diversity of DEC and DEP's generation portfolios creates a significant hedge against any potential for increasing gas prices. It is important to note that 50% of the energy produced collectively in DEC and DEP today (and planned to be produced 15 years from today) is generated from carbon-free nuclear resources that are generally immune to increasing fuel prices. The remaining 50% of energy needed to serve the Carolinas comes from a diverse mix of EE, DSM, renewables, hydro, coal, and natural gas resources which serves to protect customers from any potential of increasing natural gas prices. The Intervenors fail to acknowledge the

significant decline in natural gas prices that has occurred over the last several years and the associated risk born by consumers of not having sufficient natural gas generation resources to take advantage of the drastically lower gas prices now seen in the marketplace.

The Companies also disagree with the Intervenors' assertion that natural gas resources are a risk if CO_2 regulations are imposed. As stated earlier, the increase in natural gas resources is occurring to meet future load growth as older coal units are retired. Natural gas-fired combined cycles produce approximately two-and-a-half times less CO_2 emissions per MWh as compared to coal-fired generation. Additionally, the Companies' IRPs show over 7,100 MW of combined solar generation shown between the DEC and DEP IRPs. In total, this represents a significant shift in CO_2 emissions. Finally, as depicted in the annual IRP filings, the Companies' IRP analyses already consider futures that both include and exclude CO_2 regulations.

B. Consideration of EE-Focused and Renewables-Focused Alternative Portfolios

The Intervenors claim that the IRPs fail to explore alternative portfolios that focus on EE programs and/or renewables. Comments at 2. However, these comments ignore the fact that the Companies' 2017 IRPs and the IRPs filed over the prior several years include a significant increase of renewable resources. In the 2017 IRPs, the Companies incorporated an initial projection of the impacts of North Carolina House Bill 589, which resulted in an increase of renewables in the base case by almost 1,600 MW for DEC and DEP combined. While the specific alternative portfolios mentioned by the Intervenors (high energy efficiency and high renewables) were not specifically provided in the 2017 IRPs, the Companies examined increased renewable energy and energy efficiency resource portfolios in the 2016 IRPs, and the Companies will explore similar resource portfolios in the 2018 IRPs.

Furthermore, the Intervenors suggest that a greater focus on renewable resources would serve to reduce risk in the Companies' portfolios. Renewable energy resources are not risk-free resources and come with their own set of challenges. The surge of solar generation in the Carolinas over the last several years has caused reliability concerns at times as solar energy output is intermittent and often is moving in the opposite direction of customer demand. These characteristics place greater stress on the other generating assets on the system which can challenge reliable operations. Finally, while renewable resources provide valuable fuel savings, low natural gas prices tend to lower the value of renewable resources and can result in consumers paying more for renewable generation than their natural gas alternatives.

C. Shift to Winter Planning

The Companies disagree with the Intervenors' assertions that the Companies' shift to winter planning was insufficiently discussed and needs further review. Comments at 3. The Companies' shift to winter planning, which was first signaled in the 2015 IRPs and explained in detail in the 2016 IRPs, was made after a year-and-a-half-long resource adequacy or Loss-of-Load Expectation (LOLE) study undertaken by the Companies. The shift to winter planning was not entered into arbitrarily. The large amount of solar resources being added to the DEC and DEP systems coupled with the extreme load response to cold temperatures in recent winters, required a shift to winter planning and an increase in reserve margin to ensure that consumers have reliable service in all seasons.

Further, the Companies disagree with the Intervenors' assertion that the Companies' assessment of the reliability impacts of solar depend on a "cursory, inadequate view of solar power performance during peak load periods." Comments at 3. The Companies have conducted an extremely thorough LOLE study following back-to-back polar vortex events of 2014 and

2015 in which utilities in the Carolinas were challenged to meet peak demand despite "adequate" reserve margins going into those winters. This LOLE study clearly and definitively illustrated the need to move to winter planning criteria for DEC and DEP, which is described in detail in the Companies' 2016 IRPs.

CONCLUSION

In conclusion, the Companies submit that their 2017 Integrated Resource Plans are robust and comprehensive. The methods and assumptions utilized in the IRPs are accurate and reasonable, and the results represent the most economical and reliable portfolios at this time for all of the Companies' customers.

Respectfully submitted, this the 1st day of February, 2018.

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